

## ABSTRACT

A spatial multiplex base station (1000, 2000, 3000) estimates an optimal array parameter appropriate to a propagation environment of a received signal and changes  
5 the array parameter in an adaptive manner. The optimal value is estimated by referring to a table prepared in advance, by searching for the optimal value while executing an array process multiple times using different parameters, or by searching for the optimal value from the results of the previous frames. Consequently, a weight estimation sequential algorithm is executed based on the estimated array parameter. This enables  
10 realization of optimal signal reception in a radio receiving device, regardless of the propagation environment.